CLAIMS:

1. A battery active material powder mixture comprising:

a battery active material with an average particle size of 1 to 100 μm, and

an electrically conductive powder which adheres to the periphery of the battery active material;

wherein the conductive powder has an average particle size that is 10 nm to 10 μm and smaller than the average particle size of the active material.

2. A battery active material powder mixture which is prepared by placing a battery active material and an electrically conductive powder in a mixing container, then rotating and revolving the container so as to effect dry mixture.

3. The powder mixture of claim 2 which is composed of 0.1 to 20 parts by weight of the conductive powder per 100 parts by weight of the battery active material.

4. The powder mixture of claim 2 or 3, wherein the battery active material has an average particle size of 1 to 100 μm, and wherein the conductive powder adheres to the periphery of the battery active material and has an average particle size that is 10 nm to 10 μm and smaller than the average particle size of the active material.

5. An electrode composition prepared by wet mixing the powder mixture of any one of claims 1 to 4 with a binder polymer in a mixing container subjected to both rotation and revolution.

6. The electrode composition of claim 5, wherein the binder polymer is an unsaturated polyurethane compound prepared by reacting:

(A) an unsaturated alcohol having at least one (meth)acryloyl group and a hydroxyl group on the molecule;

(B) a polyol compound of general formula (1) below

$$HO-[(R^1)_h-(Y)_i-(R^2)_j]_q-OH \qquad (1)$$

wherein R^1 and R^2 are each independently a divalent hydrocarbon group of 1 to 10 carbons which may contain an amino, nitro, carbonyl or ether group,

Y is -COO-, -OCOO-, $-NR^3CO-$ (R^3 being hydrogen or an alkyl group of 1 to 4 carbons), -O- or an arylene group,

the letters h, i and j are each independently 0 or an integer from 1 to 10, and

the letter q is an integer which is ≥1;

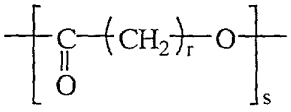
(C) a polyisocyanate compound; and

(D) an optional chain extender.

7. The electrode composition of claim 5, wherein the binder polymer is a polymeric material having an interpenetrating network structure or a semi-interpenetrating network structure.

8. The electrode composition of claim 7, wherein the polymeric material having an interpenetrating network structure or a semi-interpenetrating network structure comprises a hydroxyalkyl polysaccharide derivative, a polyvinyl alcohol derivative or a polyglycidol derivative in combination with a crosslinkable functional group-bearing compound, part or all of which compound is the unsaturated polyurethane compound of claim 6.

9. The electrode composition of claim 5, wherein the binder polymer is a thermoplastic resin containing units of general formula (2) below



(2)

in which the letter r is 3, 4 or 5, and the letter s is an integer ≥5.

10. The electrode composition of claim 5, wherein the binder polymer is a fluoropolymer material.

11. A secondary cell electrode comprising a current collector coated with an electrode composition according to any one of claims 5 to 10.

12. A secondary cell comprising in part the secondary cell electrode of claim 11 and an electrolyte.

13. A carbonaceous material powder mixture for electrical double-layer capacitors, which powder mixture comprises:

a carbonaceous material for electrical double-layer capacitors with an average particle size of 0.1 to 100 μm, and

an electrically conductive powder which adheres to the periphery of the carbonaceous material;

wherein the conductive powder has an average particle size that is 10 nm to 10 μm and smaller than the average particle size of the carbonaceous material.

14. A carbonaceous material powder mixture for electrical double-layer capacitors which is prepared by placing a carbonaceous material for electrical double-layer capacitors and an electrically conductive powder in a mixing container, then rotating and revolving the container so as to effect dry mixture.

15. The powder mixture of claim 14 which is composed of 0.1 to 20 parts by weight of the conductive powder per 100 parts by weight of the carbonaceous material.

16. The powder mixture of claim 14 or 15, wherein the carbonaceous material has an average particle size of 0.1 to 100 μm, and wherein the conductive powder adheres to the periphery of the carbonaceous material and has an average particle size that is 10 nm to 10 μm and smaller than the average particle size of the carbonaceous material.

17. The powder mixture of any one of claims 13 to 16, wherein the carbonaceous material has a packing density of not more than 1.0 g/cm^3 and an average particle size of 0.1 to 100 μm.

18. The powder mixture of any one of claims 13 to 17, wherein the carbonaceous material for electrical double-layer capacitors is prepared by subjecting a mesophase pitch-based carbon material, a polyacrylonitrile-based carbon material, a gas phase-grown carbon material, a rayon-based carbon material or a pitch-based carbon material to alkali activation with an alkali metal compound, then grinding the activated carbon material.

19. A polarizable electrode composition prepared by wet mixing the powder mixture of any one of claims 13 to 18 with a binder polymer in a mixing container subjected to rotational and revolutionary motion.

20. The polarizable electrode composition of claim 19, wherein the binder polymer is an unsaturated polyurethane compound prepared by reacting:

(A) an unsaturated alcohol having at least one (meth)acryloyl group and a hydroxyl group on the molecule;

(B) a polyol compound of general formula (1) below

$$HO-[(R^1)_h-(Y)_i-(R^2)_j]_q-OH \qquad (1)$$

wherein R^1 and R^2 are each independently a divalent hydrocarbon group of 1 to 10 carbons which may contain an amino, nitro, carbonyl or ether group,

Y is -COO-, -OCOO-, -NR^3CO- (R^3 being hydrogen or an alkyl group of 1 to 4 carbons), -O- or an arylene group,

the letters h, i and j are each independently 0 or an integer from 1 to 10, and

the letter q is an integer which is ≥1;

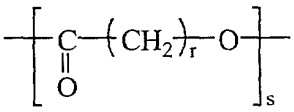
(C) a polyisocyanate compound; and

(D) an optional chain extender.

21. The polarizable electrode composition of claim 19, wherein the binder polymer is a polymeric material having an interpenetrating network structure or a semi-interpenetrating network structure.

22. The polarizable electrode composition of claim 21, wherein the polymeric material having an interpenetrating network structure or a semi-interpenetrating network structure comprises a hydroxyalkyl polysaccharide derivative, a polyvinyl alcohol derivative or a polyglycidol derivative in combination with a crosslinkable functional group-bearing compound, part or all of which compound is the unsaturated polyurethane compound of claim 20.

23. The polarizable electrode composition of claim 19, wherein the binder polymer is a thermoplastic resin containing units of general formula (2) below



(2)

in which the letter r is 3, 4 or 5, and the letter s is an integer ≥5.

24. The polarizable electrode composition of claim 19, wherein the binder polymer is a fluoropolymer material.

25. A polarizable electrode for electrical double-layer capacitors, which electrode comprises a current collector coated with a polarizable electrode composition according to any one of claims 19 to 24.

26. An electrical double-layer capacitor comprising in part the polarizable electrode of claim 25 and an electrolyte.